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ABSTRACT

This paper is concerned with the success of colleges of education in providing environmental education to the students in our schools. The involvement of colleges of education and state departments of education in environmental education plus trends in environmental education, as perceived by colleges of education and state departments of education, are investigated. Questionnaires were developed and sent to all 50 state departments of education and to a random sample of the approximately 700 teacher education institutions listed in the 1967 Yearbook of the American Association of Colleges of Teacher Education. Data received in December 1970, January 1972, February 1973, and February 1974 were tabulated and analyzed. This paper presents data on environmental education received from colleges of education and state departments of education, and certain trends have been detected. The reasons for these trends and the implications of them were not a part of this study. A list of references concludes this paper. (BT)

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PROGRESS IN ENVIRONMENTAL EDUCATION (1970-75)

by

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How well are we doing in providing environmental education to the students in our schools? Are we now doing a better job than we did four years ago? Are colleges of education and state departments of education increasing their involvement in environmental education? What are the trends in environmental education as perceived by colleges of education and state departments of education?

In order to partially answer these question, questionnaires were developed and sent to state departments of education and colleges of education for each of the past four years. One questionnaire was sent to a random sample of the approximately 700 teacher education institutions listed in the 1967 Yearbook of the American Association of Colleges of Teacher Education and the other to all fifty state departments of education. Data received in December 1970, January 1972, February 1973, and February 1974, were tabulated and analyzed.

The questions asked and the responses received from teacher education institutions are shown in Table I. In order to determine whether or not there were and significant differences between the responses given in different years, a chi squared calculation was made on each question. The results are shown in Table II.

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TABLE I

1970, 1972, 1973 and 1974 Responses from Teacher Education Institutes

	1970		1972		1973		1974	
	Yes	No	Yes	No	Yes	No	Yes	No
1. Does your college offer a course in methods of teaching environmental science?	20	87	19	79	28	54	27	60
2. Does your college offer a course involving content in environmental science?	85	23	91	7	76	4	75	12
3. Are any members of your faculty involved in?								
a. Environmental science courses or curriculum development writing?	60	48	64	32	52	26	43	44
b. Federal environmental science projects?	18	87	36	60	26	48	22	64
c. State, county or local environmental science projects?	40	67	52	44	34	42	36	50
4. Does your college have an environmental science curriculum leading to a:								
a. Teaching major?	4	103	8	88	4	70	11	75
b. Teaching minor?	6	101	8	88	10	66	17	70
5. Has your college offered any in-service environmental education courses for teachers?			46	47	46	34	38	47
6. Does your school have an environmental studies board, center or department?			28	63	28	50	22	63

TABLE II

Chi Squared Calculations for Teacher Education Institutes
Using 1970, 1972, 1973 and 1974 Data

	1970 vs. 1974		1973 vs. 1974	
	Chi Squared	Sign. Level	Chi Squared	Sign. Level
1. Does your college offer a course in methods of teaching environmental science?	3.341	n.s.	.007	n.s.
2. Does your college offer a course involving content in environmental science?	1.37	n.s.	2.77	n.s.
3. Are any members of your faculty involved in:				
a. Environmental science courses or curriculum development writing?	.501	n.s.	4.32	n.s.
b. Federal environmental science projects?	1.56	n.s.	1.30	n.s.
c. State, county or local environmental science projects?	.234	n.s.	.004	n.s.
4. Does your college have an environmental science curriculum leading to a:				
a. Teaching major?	4.26	.05	1.76	n.s.
b. Teaching monor?	7.63	.01	.778	n.s.
5. Has your college offered any in-service environmental education courses for teachers?			2.211	n.s.
6. Does your school have an environmental studies board, center or department?			1.47	n.s.

A analysis of the 1970 data indicated that in 1970 a majority of the colleges of education that responded to the questionnaire were 1) not offering a course in methods of teaching environmental science, 2) offering a course involving content in environmental science, 3) involved in environmental science course or curriculum development, 4) not involved in federal, state, county or local environmental science projects, and 5) offering either a major or minor in environmental education[1].

An earlier report on the 1970-72 data showed that there had been no significant changes in the number of colleges offering courses in methods of teaching environmental science or having an environmental science curriculum leading to a teaching major or minor[2].

Another report showed that during the period 1970-73 there was a significant increase (.05 level) in number of colleges offering courses in methods of teaching environmental science[3].

However, the percent offering these courses in 1973 was still only 33 percent. There was also a significant increase (.01 level) in the number of colleges offering courses involving content in environmental science. As there was no significant increase between 1972 and 1973, it would appear that there has been a peaking and leveling out in this area. In the 1973 the percentage of colleges offering this type of course was 95 percent.

Between 1970 and 1973 there was a significant increase (.01 level) in the number of faculty members involved in federal environmental science projects. However, most of this increase was between 1970 and 1972 and there was no significant increase

between 1972 and 1972. Hence it appears that activity in this area has leveled off.

Examination of Table II shows that the only significant differences appearing between 1970 and 1974 were in the number of colleges having an environmental science currculum leading to a teaching major or minor. The only significant difference that occured between 1973 and 1974 was in the area of faculty involvement in enviromental curriculum development. As there were no significant differences in any other areas, these were the only detectable trends.

In order to determine trends in environmental education, a questionnire was sent to the fifty state departments of education in February 1972 and again in February of 1973 and 1974. The questions included on the questionnaire and a summary of the replies received from the states are shown below.

TABLE III

	1972		1973		1974	
	Yes	No	Yes	No	Yes	No
1. Does your state have a coordinator (director) of environmental education?	26	18	34	13	32	9
If yes, is it a full time position in environmental education only?	15	11	18	16	15	17
2. Does your state have a "state plan" for environmental education?	17	27	24	23	26	15
3. Does your state department of education finance or operate in-service workshops in environmental education?	27	17	35	12	30	11

	1972		1973		1974	
	Yes	No	Yes	No	Yes	No
4. Has your state developed environmental education courses, syllabi or material for use in schools in your state?	21	23	31	15	31	10
5. Have your state universities assisted your environmental education programs?	42	2	40	5	32	8
6. Has your state received federal funds for use in developing environmental education programs?	26	18	31	16	27	14
7. Does your state department of education have a certifiable teaching major or minor in environmental education?	5	39	7	39	3	38
8. Does your state provide state funds for use in environmental education programs?	8	36	9	38	18	23
9. Do any schools in your state have specific courses in environmental education programs?	37	7	39	5	38	3

10. How well financed are your desired state environmental education programs?

	Extremely well	Fairly well	Poorly	Not a all
1972	2	6	25	13
1973	2	9	27	2
1974	1	7	27	6

11. To what extent is your state environmental education program developed?

	Extremely well	Fairly well	poorly	Not at all
1972	0	23	16	5
1973	2	27	12	2
1974	4	22	12	3

12. To what extent has your state department of education assisted public schools with their environmental education programs?

	Extremely well	Fairly well	Poorly	Not at all
1972	4	32	8	0
1973	6	29	9	0
1974	7	24	8	0

13. What percent of the teachers in your state have received in-service or pre-service instruction in methods of teaching environmental education (estimate)?

	Over 80%	79-30%	29-10%	Less than 10%
1972	0	5	12	27
1973	0	4	17	19
1974	0	7	21	13

From the table it can be seen that in 1972 a majority of states had a coordinator of environmental education, had received federal funds for use in developing environmental education programs, had financed or operated in-service workshops inenvironmental education, had schools in their state offering specific courses in environmental science, and had received assistance from state universities in developing their environmental programs. However, less than half of the states had a full time coordinator of environmental education, had a "state plan" for environmental education, had developed environmental education courses, syllabi or materials for use in their schools, had a certifiable teaching major or minor in environmental education, or had provided state funds for use in environmental education programs[2].

In order to determine whether or not there were any significant differences between the 1972 and 1974 responses, a chi squared calculation was made on each question. The results are shown in Table IV below.

TABLE IV

Chi Squared Calculations for State Departments of Education using 1972, 1973 and 1974 Data

	1972 vs. 1974		1973 vs. 1974	
	Chi Squared	Sign. Level	Chi Squared	Sign. Level
1. Does your state have a coordinator (director) of environmental education?	2.69	n.s.	.137	n.s.
If yes, is it a full time position in environmental education only?	.309	n.s.	.006	n.s.
2. Does your state have a "state plan" for environmental education?	4.27	.05	.904	n.s.

	1972 vs. 1974		1973 vs. 1974	
	Chi Squared	Sign. Level	Chi Squared	Sign. Level
3. Does your state department of education finance or operate in-service workshops in environmental education?	.858	n.s.	.011	n.s.
4. Has your state developed environmental education courses, syllabi or material for use in schools in your state?	5.82	.05	.370	n.s.
5. Have your state universities assisted your environmental education programs?	3.41	n.s.	.697	n.s.
6. Has your state received federal funds for use in developing environmental education programs?	.176	n.s.	.046	n.s.
7. Does your state department of education have a certifiable teaching major or minor in environmental education?	.071	n.s.	.667	n.s.
8. Does your state provide state funds for use in environmental education programs?	5.46	.05	5.20	.05
9. Do any schools in your state have specific courses in environmental education programs?	.795	n.s.	.071	n.s.
10. How well financed are your desired state environmental education programs?	2.07	n.s.	1.26	n.s.
11. To what extent is your state environmental education program developed?	2.87	n.s.	.534	n.s.
12. To what extent has your state department of education assisted public schools with their environmental education programs?	1.03	n.s.	.139	n.s.
13. What percent of the teachers in your state have received in-service or pre-service instruction in methods of teaching environmental education?	7.27	n.s.	1.92	n.s.

From Table IV it can be seen that the only significant differences that occurred between 1972 and 1974 were in the number of states having a "state plan" in environmental education, state developed environmental education courses and syllabi, and in state funds provided for environmental education. The only significant difference between 1973 and 1974 was in the area of state funds provided for environmental education.

In summary, environmental education programs appear to be improving in some areas and to be static in others. From the limited data, it is difficult to detect trends. However, it appears that federal financing for environmental programs and the number of colleges offering courses involving content in environmental science have peaked and leveled off. There appears to be a trend toward more colleges offering courses in environmental science and toward better financing of environmental education programs.

The number of college faculty members involved in environmental curriculum development and federal environmental science have peaked and there is now less faculty activity in this area. More colleges are now offering majors and minors in environmental science, however fewer in-service environmental science courses for teachers are being offered. In addition there is a decrease in the number of colleges which have environmental studies boards.

The number of state departments of education that have directors of environmental education appears to have leveled off, and there is a slight decrease in the number of full time positions in this area. There is a continuing upward trend in the number of states that have state environmental education plans.

Financing of in-service workshops in environmental education appears to have peaked and there is now a downward trend in this area. Activity by state departments of education in developing syllabi and materials in the public schools has leveled off.

Federal funds that are available to states for program development in environmental education have decreased since 1973. However, there is an increase in the number of states that provide funding for local environmental education programs.

State departments of education continue to perceive of their environmental education programs as being fairly well developed but poorly funded. Available data indicates that the number of teachers who have not received any training in methods of teaching environmental education remains high.

This article has presented data on environmental education received from colleges of education and state departments of education, and certain trends have been detected. However, the reasons for these trends and the implications of them are not a part of this study.

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1. Trent, John H. "Status of Environmental Science in Colleges of Education", Journal of Environmental Education, Summer 1972, p. 53.

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